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10/596,761	06/23/2006	Bernardus H.W. Hendriks	GB040066	1224

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EXAMINER
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MARTINEZ, JOSEPH P

ART UNIT	PAPER NUMBER
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2873

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/596,761	HENDRIKS ET AL.
	Examiner Joseph Martinez	Art Unit 2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1-12 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 23 June 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 3 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of copending Application No. 10/527,868. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant invention and the co-pending application teach switchable optical elements having two discrete states wherein a first fluid defines a first state and a second fluid defines a second state.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Objections***

Claim 1 is objected to because of the following informalities: claim 1 lacks proper punctuation. Appropriate correction is required. For purposes of examination, the examiner interprets claim 1 to end in a period.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 7-9 and 11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Tsuboi et al. (6702483).

Re claim 1, Tsuboi et al. teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C, 23A and 23B, a zoom optical system comprising a lens system which is arranged to provide a variable zoom setting for a beam of radiation (col. 22, ln. 17-24), wherein the lens system comprises a switchable optical element (101) having a first mode (fig. 23B) and a second mode (fig. 23A), characterized in that the element includes a first fluid (8), a second fluid (9) and a wavefront modifier (outer lensing portion on the right side of optical element of fig. 23B) having a part (inner lensing portion on the right side of

optical element of fig. 23B) through which said radiation beam is arranged to pass (dotted line along optical axis; fig. 23A, 23B), wherein in the first mode the switchable optical element has a first fluid (8) configuration in which said part is substantially covered by the first fluid (fig. 23B), and in the second mode the switchable optical element has a second, different, fluid (9) configuration in which said part is substantially covered by the second fluid (fig. 23A).

Re claim 4, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C , 23A and 23B, the switchable optical element comprises a further wavefront modifier (outer lensing portion on the left side of optical element of fig. 23B) having a different part (inner lensing portion on the left side of optical element of fig. 23B) through which said radiation beam is arranged to pass (fig. 23B), wherein the wavefront modifier is adapted to perform a first wavefront modification and the further wavefront modifier is adapted to perform a second, different, wavefront modification which is arranged to complement the first wavefront modification (col. 12. ln. 66-67 to col. 13, ln. 1-2).

Re claim 5, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C , 23A and 23B, the wavefront modifier (outer lensing portion on the right side of optical element of fig. 23B) has a face (fig. 23B), wherein said face is substantially spherical (fig. 23B) and said part (inner lensing portion on the right side of optical element of fig. 23B) is on said face (fig. 23B).

Re claim 7, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C , 23A and 23B, said first lens (101) is a fluid meniscus lens which comprises different fluids (8, 9) separated by a fluid meniscus having a curvature (boundary; col. 22, ln. 5-9), wherein the optical system further comprises a control system (1130) and the variable focus comprises variations in the fluid meniscus curvature (col. 22, ln. 5-9) wherein the control system is arranged to control the variable focus using meniscus electrowetting forces (col. 22, ln. 12-16).

Re claim 8, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C , 23A and 23B, the fluid meniscus lens further comprises a first electrode (10) and a second, different, electrode (11) and the control system is arranged to apply a voltage across said first and second meniscus electrodes to provide said meniscus electrowetting forces (col. 22, ln. 12-16).

Re claim 9, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C , 23A and 23B, the lens system comprises a solid lens (2; fig. 11) capable of being arranged at varying spatial positions relative to the switchable optical element (col. 11, ln. 31-36).

Re claim 11, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C , 23A and 23B, with the optical system being in said first mode (col. 14, ln. 54-55), the apparatus is adapted to capture an image (via 1144) with a first zoom setting

(col. 14, ln. 54-55; wherein the examiner interprets the ability to capture an image zoomed in or out to teach the claimed limitation), and with the optical system being in said second mode (col. 14, ln. 54-55), said apparatus is adapted to capture an image (via 1144) with a second, different, zoom setting (col. 14, ln. 54-55; wherein the examiner interprets the ability to capture an image zoomed in or out to teach the claimed limitation).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboi et al. (6702483) in view of Bartels (6473543).

Re claim 2, supra claim 1. Furthermore, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C, 23A and 23B, the first fluid is a liquid.

But, Tsuboi et al. fails to explicitly teach the second fluid is gaseous.

However, within the same field of endeavor, Bartels teaches for example in fig. 2A and 2B, the second fluid is gaseous (col. 15, ln. 12-14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tsuboi et al. with the teachings of Bartels in order to reduce weight.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboi et al. (6702483) in view of Berge et al. (6369954).

Re claim 3, supra claim 1. Furthermore, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C, 23A and 23B, a common first fluid electrode and a second, different, fluid electrode and wherein in the first fluid configuration the element is arranged to provide switchable electrowetting forces by applying a first voltage across said first and second fluid electrodes.

But, Tsuboi et al. fails to explicitly teach a third, different, fluid electrode and in the second fluid configuration the element is arranged to provide different switchable electrowetting forces by applying a second, different, voltage across said first and third fluid electrodes.

However, within the same field of endeavor, Berge et al. teaches for example in fig. 6, a third, different, fluid electrode (76-79) and in the second fluid configuration the element is arranged to provide different switchable electrowetting forces by applying a second, different, voltage across said first and third fluid electrodes (col. 5, ln. 50-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tsuboi et al. with the teachings

of Berge et al. in order to provide a longitudinal gradient to insure the liquid permanently has a radial symmetry with respect to the optical axis, as taught by Berge et al. (col. 5, ln. 60-62).

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboi et al. (6702483) in view of Widl (6081388).

Re claim 6, supra claim 1.

But, Tsuboi et al. fails to explicitly teach a further switchable optical element, said further switchable optical element being arranged to operate in cooperation with said switchable optical element to provide at least part of said variable zoom setting of the lens system.

However, within the same field of endeavor, Widl teaches for example in fig. 6, a further switchable optical element (26), said further switchable optical element being arranged to operate in cooperation with said switchable optical element (col. 49-56) to provide at least part of said variable zoom setting of the lens system (col. 2, ln. 57-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tsuboi et al. with the teachings of Widl in order to provide mechanically adjustable imaging sharpness and imaging scale, as taught by Widl (col. 2, ln. 57-59).

4. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuboi et al. (6702483).

Re claim 10, supra claim 1. Furthermore, Tsuboi et al. further teaches for example in fig. 11A, 11B, 13, 15, 21B, 21C, 23A and 23B, said lens system (101) comprises a lens having varying optical power (col. 22, ln. 12-16).

But, Tsuboi et al. fails to explicitly teach a liquid crystal lens.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a liquid crystal lens, since a varying optical power lens and a liquid crystal lens are known equivalents in the art and the selection of any of these known equivalents would be within the level of ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tsuboi et al. with a liquid crystal lens in order to provide versatility in manufacturing based on availability of resources.

Re claim 12, supra claim 11.

But, Tsuboi et al. fails to explicitly teach a digital zoom.

However, Tsuboi et al. teaches for example in fig. 15, an image signal processing circuit for converting an analog image signal supplied from the image pick-up means into a digital signal, and performing various kinds of image processing (col. 15, ln. 5-9) and for use in digital still camera (col. 14, ln. 44-49). Furthermore, the examiner

interprets image processing to include digital zoom, as is well known in the art of digital cameras:

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tsuboi et al. to include digital zoom in order to provide image magnification and save weight with less optics.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joseph Martinez/  
Patent Examiner, AU 2873  
1-6-08